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ADVISORY COMMITTEE MEETING MINUTES

Proposed Amendments for Title 8, California Code of Regulations,
Telecommunication Safety Orders Section 8608(a) and (b)

Fixed Ladder Rungs and Steps for Telecommunication Towers and Poles.

December 1, 2010
Sacramento, California

The meeting was called to order by the Chair, George Hauptman, Senior Engineer, Occupational Safety and Health Standards Board (Board), at 9:00 a.m. on Wednesday, December 1, 2010. The Chair was assisted by Bernie Osburn of the Standards Board staff. The Division of Occupational Safety and Health (Division) was represented by Senior Safety Engineers, Patrick Bell and Mike Donlon. The Chair welcomed committee members and asked for self-introductions.

The Chair reviewed the Board's policies and procedures concerning the goals, objectives and use of advisory committees. The Chair explained that the committee's role is to advise the Board. The Board will consider the committee recommendations, usually accepting them, sometimes modifying them and less frequently rejecting the recommendations if for example, the committee's recommendations would not be at least as effective as federal OSHA standards.

The Chair explained that this advisory committee is convened as a result of the Board's Petition No. 510 submitted by Mike Coghlan, Vice President – Sales and Marketing, for Sabre Towers and Poles. The Board's Petition Decision directed staff to convene an advisory committee to consider the Petitioner's recommendations. The petition noted that there are numerous telecommunication towers in California that comply with federal standards but do not comply with current California Title 8 standards. Ms. Rolli Sexton, Western Regional Sales Manager, for Sabre Towers and Poles attended the meeting on behalf of Mr. Coghlan. She explained that the petition requests that the Board adopt standards for California consistent with federal OSHA for the design of fixed ladders on telecommunication towers.

The Chair added that federal OSHA telecommunication standards in 1910.268(h)(2) specify that fixed ladder rungs shall have a minimum clear width of 12 inches. The federal standard further states that fixed ladder rungs and step rungs for poles and towers shall have a minimum diameter of 5/8 inch. California's counterpart standards in the Telecommunication Safety Orders (TSO) Section 8608(a) do not address the requirements for fixed ladders that are permanently attached to telecommunication towers. Therefore, those provisions for fixed ladders are covered in the

General Industry Safety Orders (GISO) Section 3277(d), which requires fixed ladder rungs to have a minimum diameter of ¾ inch and a minimum clear length (width between the side rails) of 16 inches and that ladder rungs shall be uniformly spaced not to exceed 12 inches between the top surfaces of rungs.

The Chair noted that in his observation's in the Sacramento area, that there appears to be a large number of communication towers that have fixed ladders with rungs 5/8 inch in diameter, and that are 12 inches in width between the side rails. Ed Sogge, Com Plus, stated that his company does a great deal of contract work including tower erection and modifications to towers. He noted that telecommunication tower structures have a variety of climbing apparatuses and some are equipped with 12 inch wide ladder rungs while others have rungs 16 inches wide. Mr. Sogge added that the difference between a 12 inch wide ladder and a 16 inch wide ladder is not a difficult problem. Com Plus has a policy of fall protection at all times, and most ladders are equipped with a safety climb system with a cable grab, or if not, then an alternative measure such as a rope grab safety line would be used. The Chair noted that a number of other stakeholders contacted expressed similar policies.

The committee also discussed that some of the lighter weight and taller communication towers, including those that are guy supported, do not have the structural support or space to accommodate a metal ladder as wide as 16 inches with metal rungs that are ¾ inch in diameter. Patrick Bell, Senior Safety Engineer, Division, stated that he is aware of certain telecommunication towers that would not support the wider and heavier ladder and that he felt that amendments reviewed today could resolve that concern.

One committee member stated that access up the tower includes a variety of methods which might start with climbing steps or pegs, transition to tower structural members and then a fixed ladder. The Chair asked what safety procedures are used when climbing pegs/steps on the leg of tower. One member stated that it depends on the angle of the tower but workers can wrap their lanyard around the structure and work their way up the tower or put a safety device over each step bolt as they climb. Jay Weir, of AT&T added that whether it be a pole or a tower, they always emphasize maintaining a "3-point contact" (two hands & one foot, or two feet and one hand) in contact with the pole or structure at all times when climbing.

The Chair stated that the requirements for fall protection are the same in the Electrical Safety Orders and the TSO. Fall protection is required on poles and towers at elevated locations more than 4 feet above the ground with the exception of point to point travel by a qualified person. The Chair asked when the exception would be necessary. Larry Pena, Manager of Corporate Safety Policy & Regulations, Southern California Edison, responded that some examples would include free climbing by a qualified person up a pole maintaining a 3-point contact without being physically attached to the pole with the exception of climbing and leg iron assist devices for wood poles or when making the transition from the leg of a tower to that point where there is a ladder on the structure.

Jay Weir stated Mr. Pena's comments are applicable for telecommunication work also and indicated that it is a common practice to climb using the 3 points of contact to reach the work

station. Mike Bell, Communications Workers of America, stated he has over 30 years experience climbing poles and indicated that the climber is taught upon reaching his or her work station to first tie in the safety lanyard before commencing any work activity. Several committee members explained the training and testing programs that their employees must pass before they are considered qualified and allowed to climb either poles or towers.

The Chair stated that this advisory committee and any resulting rulemaking would focus primarily on issues presented in the Petition related to the design and spacing of rungs for fixed ladders and steps for poles and towers used in telecommunication operations. However, the committee may have additional discussions related to work practices and procedures that could be a matter for future consideration, but are not the focus of this meeting.

The committee then reviewed the federal telecommunications standard in 29 CFR 1910.268(h)(2) related to the spacing for steps and rungs on poles and fixed ladder towers and compared it with counterpart California standards in TSO Section 8608(a) and (b) for pole steps and GISO Section 3277(d)(1) – (3) for fixed ladders.

Tom Rasler, Director of Special Projects, Electrical and Safety Consultants International, asked whether it is anticipated that any amendments would be retroactive or cause retrofitting. The Chair responded that it was not the intent of this proposal to cause retrofitting or modifications but rather to address the specific problem that, in the absence of rulemaking, some towers would be required to be equipped with wider and heavier fixed ladders that are not feasible or safe for the design of the tower structure.

The committee also discussed the type of accidents that are typical regarding falls from towers. The Chair indicated that he had reviewed California tower related falls resulting in citations in both the High and Low Voltage Electrical Safety Orders and the Telecommunication Safety Orders for an approximate 17 year period and that relative to the time span, very few accidents occurred.

The Chair stated there are a number of nationwide accidents that can be reviewed over multiple year periods on the federal OSHA website. The accident histories in some cases, lacked specific details mentioning for example, a fall in ascending or descending the tower but the Chair indicated in general, that it appears falls from ladders are infrequent. However, in many cases, the workers were installing equipment, such as the tower antenna and temporarily unhooked their fall protection equipment, or the fall protection equipment was faulty or was worn but not used. In some cases, lack of training or experience was a factor. In some other states, workers are allowed to be hoisted up a tower by a rope and winch system, and there were a number of failures of the rope and/or mechanical equipment that caused accidents. Division representatives indicated that such winching systems for hoisting workers are not permitted in California.

The Chair indicated that he had received a comment letter from a tower manufacturer, Valmont Structures. Valmont's letter indicates they have designed and provided communication structures for every state in the U.S. It has been their experience that it is not uncommon for various states or local jurisdictions to have their own requirements and definitions regarding

OSHA rules for fixed ladders and steps on communication towers. Valmont decided to meet the most stringent dimensional requirements encountered.

Valmont indicated that their California communication structures would generally meet GISO Section 3277 criteria with respect to a minimum diameter of ladder rungs of ¾ inches, clear length of ladder rungs between the side rails of 16 inches, and a maximum uniform spacing (vertically) between rungs of 12 inches. Valmont also commented that most of their structures are not of the "light weight" variety where perhaps the physical size of the structure would make it more difficult to meet the more stringent dimensional requirements. The Chair noted that comments regarding lighter weight structures reflect some of the earlier discussions of the day that some towers would not have the space or be able to support the weight of ladders with rungs that are larger in diameter and width than prescribed in the proposal and the federal standard.

The Chair stated that it was evident that there was a consensus to proceed with rulemaking that would address the concern that currently there are many communication towers with fixed ladders in California that do not meet GISO Section 3277(d) dimensional provisions. With no objections received, the consensus was to proceed with amendments and review the proposal.

Starting with Section 8608, the Chair stated that existing subsection (a) lumps all requirements into one paragraph which made it difficult to read and comprehend the various dimensional requirements for steps on poles and towers. The proposal deletes existing subsection (a) and relocates the existing requirements with edits and modifications into additional subsections. The committee started with review of the definitions in subsection (a). The definition of "steps" was acceptable to the committee with no comments or concerns. The definition for ladder "rungs" is omitted in the current draft proposal as it seemed unnecessary in the context of language proposed for subsection (b). [Please note in the attached proposal that, for editorial and formatting reasons, items that were originally proposed in the meeting draft text as subsection (b), related to steps and for poles and towers are proposed in subsection (a). Provisions related to the dimensions and spacing of rungs on fixed ladders are included in subsection (b) of the attached proposal].

The committee discussed the fact that some detachable steps are designed with a flat metal stepping surface that is secured to hardware on the pole and are designed such that technically, they would not be 5/8 inch in diameter as specified for permanent steps. Jay Weir had a sample of a detachable step that was passed around the committee. Sections 8608(a)(1) and (a)(2) in the proposal address this concern.

The committee reviewed subsection (a)(3) which was agreed upon as shown in the attached proposal. The Chair noted that the federal standard in 29 CFR 1910.268(h)(2) provides that the maximum spacing between detachable steps may not exceed 30 inches on any one side. The Chair indicated he had some concerns about a safe transition from detachable steps spaced 30 inches apart on any one side while climbing to or from permanent steps which are permitted to be a maximum of 36 inches apart. Further, the 30 inch maximum is not consistent with the California Public Utilities Commission (CPUC) General Order No. 95, which does not

differentiate between detachable and permanent steps on poles and specifies a maximum spacing of 36 inches for steps on any one side of a pole or the leg of a tower.

The committee discussed that in California, the spacing of detachable steps and permanent steps is uniform and consistent with the existing requirement of a maximum spacing of no more than 36 inches on any one side. The committee concluded that to adopt a shorter spacing of 30 inches for detachable steps would cause unnecessary modifications and, in addition, would not be as safe as uniform spacing and transition from detachable to permanent steps and vice versa. Tom Rasler stated the federal provision may be related to certain lattice steel towers, where the holes for steps are spaced at 15 inches apart. It was noted that should permanent steps be installed at 15 inches apart, subsection (a)(3), which is existing language, would provide for uniform spacing of the permanent and detachable steps.

Tom Rasler stated that existing language, [subsection (a)(4)] that requires the lowest detachable step be no more than 24 inches from the ground is a problem when footings or a foundation supports the structure, because the requirement cannot be met in some cases. The committee agreed with his concern and recommended that the language include that the lowest detachable step be no more than 24 inches above the "structure foundation" or the ground.

The Chair stated that existing Section 8608(b) provides that wood poles with pole or strand mounted terminals (e.g. equipment providing access points for communication services) expected to be frequently climbed for maintenance or operating purposes shall be stepped in accordance with CPUC General Order (G.O.) No. 95, March 1980. In the original proposal for committee review, subsection (b) was reworded and modified to be an Exception. However, Patrick Bell stated that the exception as drafted lacked the mandatory words "shall be stepped" which are preferred for clarity and are included in the existing subsection. Mike Donlon suggested that it would be better to omit the proposed exception and make the necessary changes to existing subsection (b). Patrick Bell also clarified that the requirements in existing subsection (b) that refer to G.O. No. – 95 only pertains to poles that have strand mounted or pole mounted telecommunication equipment on them so that such poles can be accessed for necessary work.

The Chair passed out the standards contained in CPUC, G.O. No. 95-2009 Sections 51.7, 81.6, 84.7-E., 91.3, and 61.7 that address steps for poles and towers. He stated that the section numbers had not changed since the 1980 edition referenced in the existing section. One member stated that the requirement to step poles with strand mounted, or pole mounted communication equipment on it has been a requirement for over 30 years. Larry Pena added that investor owned utilities typically incorporate CPUC G.O. No. 95 rules into their procedures and safety policies.

The committee reviewed these G.O. No. - 95 sections, noting that the provisions are primarily consistent with TSO, Section 8608. However, Section 81.6 does permit steps lower than 7 feet 6 inches from the ground for poles with communication conductors only. Although Ryan Yamamoto, CPUC representative, stated that he has never seen steps installed lower than 7 feet six inches from the ground line, there could be some poles that are so equipped, and the latest edition of G.O. Order No. – 95 still includes the provision.

The Chair added that in his review, there has been very little change in G.O. No. 95 - March 1980 provisions and the current 2009 edition. The committee concurred that it is apparent that none of the minor changes would cause any need for material changes, retrofitting or a phase-in effective date in order to reference the 2009 edition. However, the 1980 version is very difficult to obtain, while the 2009 version is available free on the CPUC website. After considerable discussion, the committee agreed to drop the concept of an exception and retain the provisions relating to G.O. No. - 95 in its own subsection [see proposed subsection (a)(5)]. The proposal also references the applicable G.O. No. - 95 sections that address steps on poles.

One member stated that the language in existing subsection (b) applies to poles that are expected to be "frequently" climbed and that it is not clear how many climbs mean "frequently." Jay Weir stated that not all poles are required to be stepped. However, the purpose of existing subsection (b) is to ensure that poles are stepped when access to mounted communication equipment is necessary for service or maintenance. Several members discussed that if a pole has strand or pole mounted communication terminals on it, the Division and end users would expect it to be stepped for safe access. The committee agreed to delete the word "frequently" for clarity [see proposed subsection (a)(5)].

Next, the committee reviewed language in the proposal to address rung spacing and fixed ladders when they are installed on towers or poles. These provisions are in subsection (b)(1) through (b)(3) in the attached proposal. The Chair explained that subsection (b)(1) states that fixed ladders shall be approved as defined in Section 3206 of the General Industry Safety Orders. The Chair stated that the term "approved" is defined and means that the installation design is evaluated by a person with appropriate registered engineering competence and/or by a person, firm or entity, independent of the manufacturer with demonstrated competence in such evaluations. It also refers to installations that meet applicable governmental or nationally recognized standards. The committee agreed with this provision as proposed.

Subsection (b)(2) addresses a primary recommendation of the Petitioner and is intended to be consistent with the counterpart federal standard. It states that fixed ladder rungs for poles and towers shall have a minimum diameter of 5/8-inch and a minimum clear width of 12 inches between the side rails. It should be noted that the provisions for fixed ladder rungs in subsection (b)(1) and (b)(2) also includes poles, because during the committee discussions, it was noted that some tall and particularly wide steel poles are designed with wide bases that are equipped with fixed ladders. Scot Sandefur, Director of Environmental Health & Safety, American Tower Corporation, stated that a telecommunication monopole will have a minimum diameter of 24 inches, and a fixed ladder is the preferred design for climbing these types of steel poles.

The Chair stated subsection (b)(3), addresses the maximum vertical spacing or distance between rungs. Proposed subsection (b)(3) states that the distance between the top surfaces of rungs shall not exceed 12 inches and shall be uniform throughout the length of the ladder. The Chair noted that the federal standard [second sentence in 1910.268(h)(2)] could be interpreted to mean that the vertical spacing of rungs center to center, going up or down the ladder, could be a maximum of 18 inches. However, the Chair noted that 12 inch vertical rung spacing seems to be the accepted and observed spacing installed on telecommunication towers. Patrick Bell stated that

everyone is used to climbing fixed ladders with a maximum vertical rung spacing of 12 inches uniformly spaced throughout the ladder, which is an appropriate distance.

One member stated that an effective date going forward for this provision should be considered in the event there are existing fixed ladders on towers with greater spacing between the rungs. Additionally, Scot Sandefur stated that American Tower buys, owns and leases many towers both old and new, and they do not have any control over how those older towers were designed. He felt there should be some type of grandfathering of towers regarding the vertical spacing of rungs in the event that there may be some installations out there that exceed the 12 inch vertical spacing. The Chair questioned the committee as to whether there are telecommunication towers fixed ladders that exceed the vertical spacing of no more than 12 inches between fixed ladder rungs.

The committee members were not aware of specific existing fixed ladder installations that exceeded the 12 inch vertical rung spacing, but there was some concern they might exist. The Chair stated that, typically, an effective date is inserted or exceptions are considered if staff is aware that a number of existing installations would require retrofitting or modifications in the absence of an exception or effective date. One member asked whether a permanent variance could be considered if it were discovered that one tower or a series of tower installations has the greater vertical rung spacing on fixed ladders. The Chair and the Division concurred that a variance could be a consideration for those isolated instances, although the Board ultimately decides those matters based on staff and Division recommendations combined with a variance hearing. The Chair indicated that he would retain the language as proposed in subsection (b)(3). However, the Chair stated, in the ensuing weeks, anyone who finds that there are installations, particularly in multiple locations, that have the rung spacing greater than 12 inches should contact him.

Robert Harris, Communication Workers of America, asked if the provisions for fixed ladders should include a requirement that all towers climbed by workers should be provided with steps or ladders. The Chair stated that not all towers are designed with steps or ladders when the structural members of the tower are used for accessing the tower. This is the case particularly with some of the lighter weight guyed towers where the structural members are used to access the tower. Rolli Sexton added that the stealth towers, those that are designed to look like trees, are usually not equipped with steps or ladders and are typically accessed by various types of lifts. Consequently, the proposed language remained as outlined in subsection (b).

The Chair stated that review of the proposed text was concluded and asked if the proposal would result in any significant new costs. Patrick Bell indicated the proposal avoids having to modify or rebuild many existing telecommunication fixed ladder installations to meet the requirements for fixed ladders that are provided in the General Industry Safety Orders. The Chair agreed, indicating that he did not foresee that the proposal would result in any significant new costs.

The Chair explained the follow-up rulemaking activities for the proposal and stated that he felt the committee had reached a consensus on the provisions in the proposal. There being no further

questions or comments, the Chair thanked the committee members for their participation and adjourned the meeting.